Use of Social Media and the Case of Daesh: An Information Warfare Perspective

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Session Focus

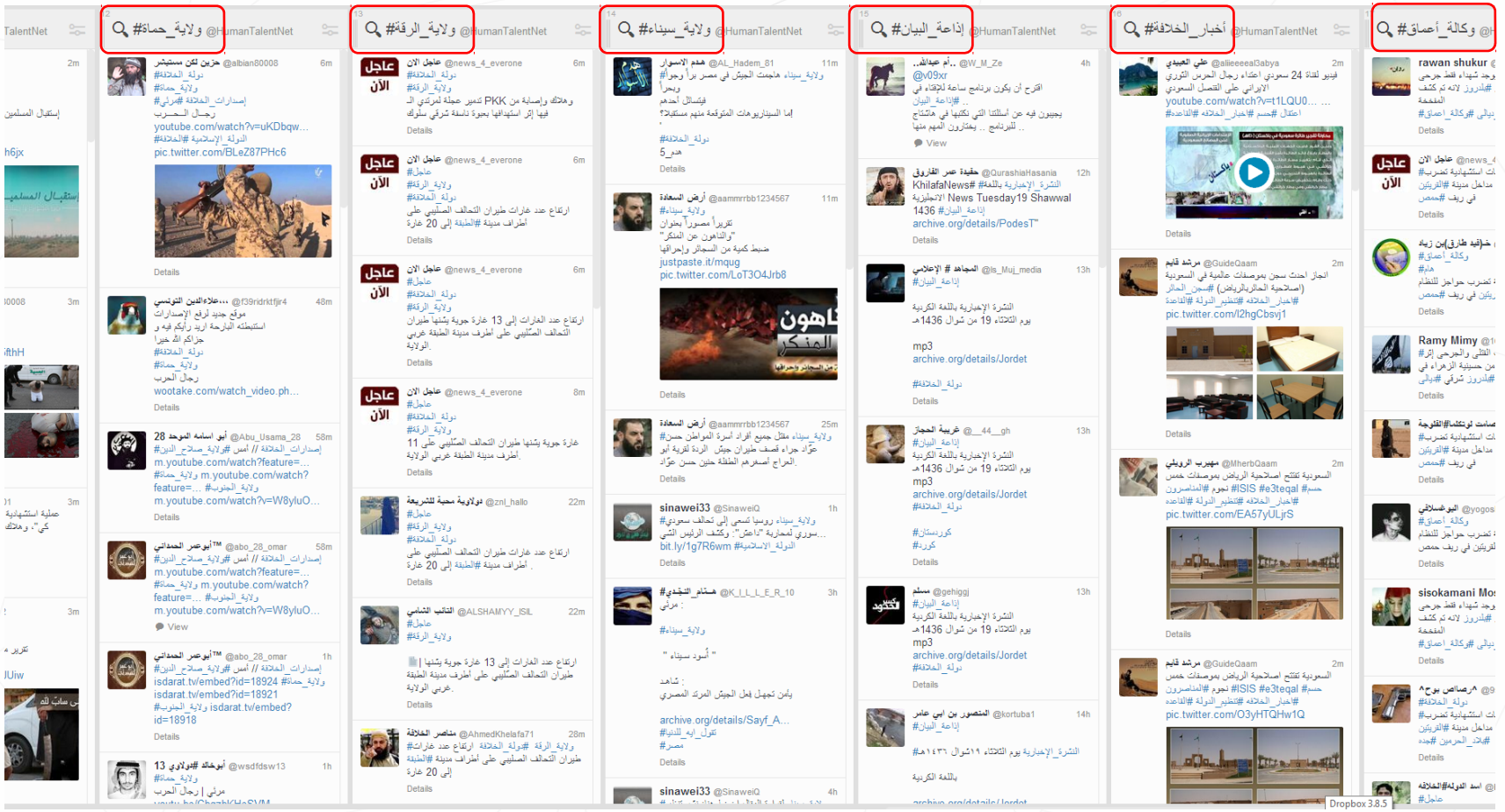
- Research Summary
- Environmental Scan
- Social Media Network Topics (Core Analysis)
  - Traffic Networks
  - Backcloth (Friend and/or Follow) Networks
  - Leader Networks
- Account Level Behaviors
- Strategic Insights

Research Summary

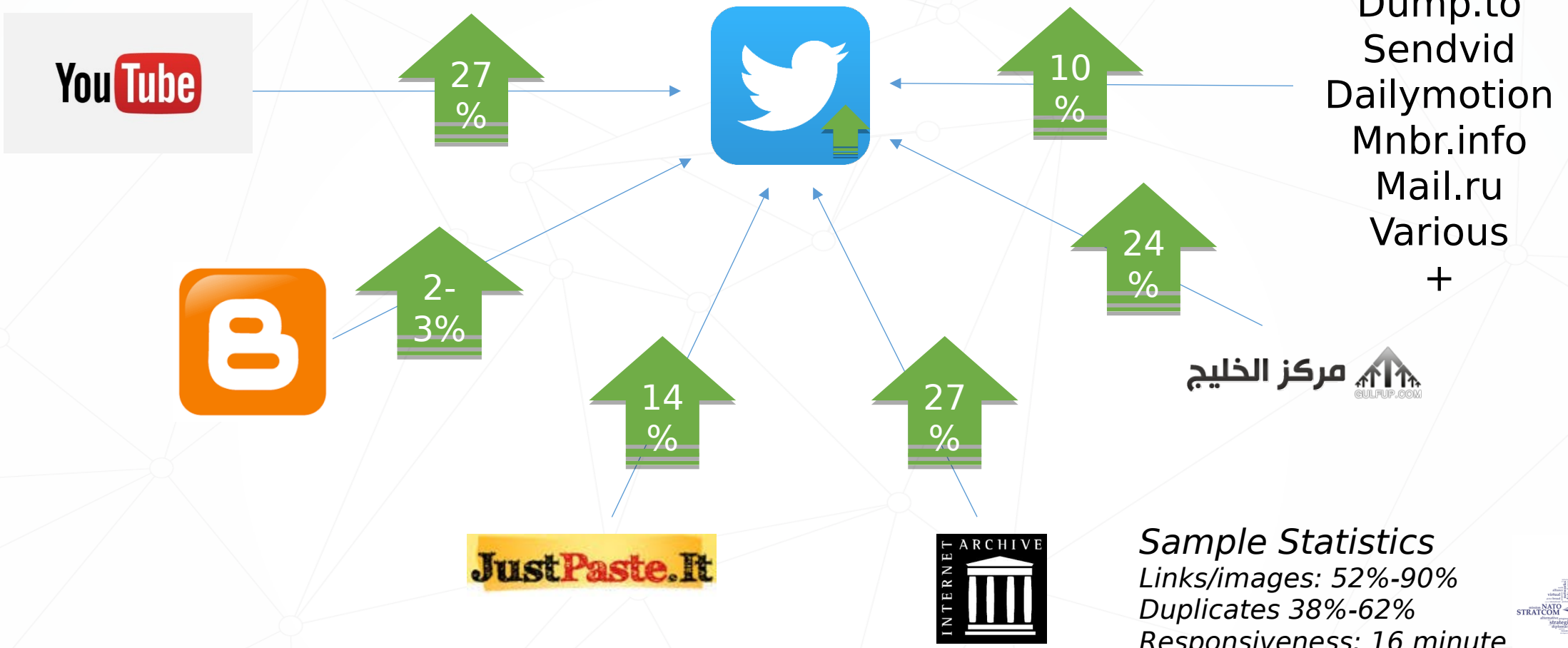
- Daesh information resources are distributed but they use mediums such as twitter as an umbrella medium to connect the various sources into one easily searchable, browsable information index
- Daesh is a flexible, responsive network capable of incorporating previously learned lessons with great speed
- Daesh social network activity represents a self-repairing, self-reinforcing, highly complex web. *Organized disorganization* is an adequate description of their behavior.

Environmental Scan

Clear Method and Structure



Using Twitter is Effective for Centralized Propagation



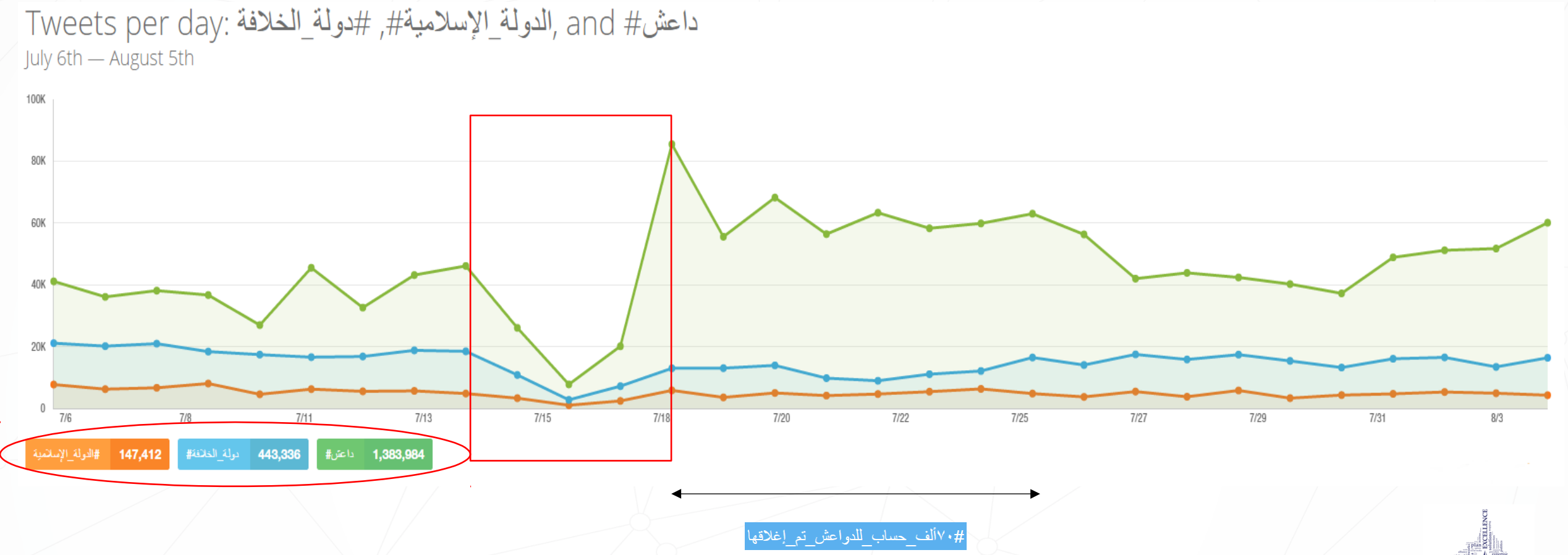
Sample Statistics

Links/images: 52%-90%

Duplicates 38%-62%

Responsiveness: 16 minute tweets

High Impact



Source: Topsy

Information Terrain: Product types

Recruitment

Demonstration of Order

Information Terrain: Product Types

Action/Hero (Hollywood) Shots

Demonstration of Applied Law

Information Terrain: Product Types

Professional Press Releases / Public Relations

Demonstration of Normal Life

Network Topics: Traffic Networks

Keywords as a Geo-locator

Mentioned “States”

- Hamma
- Raqqa
- Sinai
- Tripoli
- Salahuddin
- Furat
- Barqa
- Gaza
- Aljazeera
- Twitter

Overall	Count	Group 1	Count	Group 2	Count	Group 3	Count
دولة_الخلافة	208	دولة_الخلافة	69	دولة_الخلافة	12	دولة_الخلافة	15
عاجل	35	suspend	21	دولة_الخلافة	5	ولاية_حماة	9
ولاية_حماة	32	عاجل	16	غزة	4	غزوة_فساء_صباح_المنذرين	9
غزوة_فساء_صباح_المنذرين	29	ولاية_الرقة	8	حماس	4	عاجل	5
suspend	21	ولاية_طرابلس	6	غريب_الإخوان	4	ولاية_الجزيرة	5
الدولة_الإسلامية	20	سرت	6	أخبار_الخلافة	4	عاجل	4
ولاية_الرقة	13	ولاية_صلاح_الدين	5	عاجل	3	دولة_الخلافة	4
إصدارات_الخلافة	12	ولاية_حماة	5	حماس	2	ولاية_الجزيرة	2
دولة_الخلافة	12	ولاية_الفرات	5	غزة	2	بيجي	1
ولاية_سيناء	11	ولاية_برقة	5	أخبار_الخلافة	2	ولاية_صلاح_الدين	1

Insight

Daesh uses twitter as an organizing index for information dissemination by using regional hashtags to disseminate information. This allows Daesh fighters and organizers to check the latest news in their region at will.

Information Pathways & Driving the Message

Top Hashtags	Entire Graph Count
دولة_الخلافة	208
عاجل	35
ولاية_حماة	32
غزوة_فساء_صباح_المنذرين	29
suspend	21
الدولة_الإسلامية	20
ولاية_الرقة	13
إصدارات_الخلافة	12
دولة_الخلافة	12
ولاية_سيناء	11

State of the Caliphate (Caliphat State)

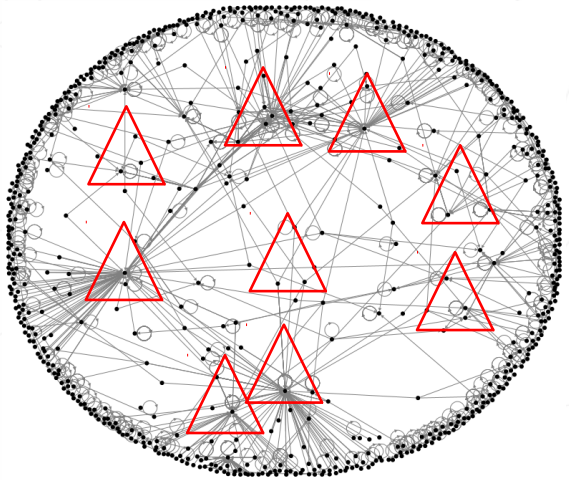
Urgent

State of Hammah

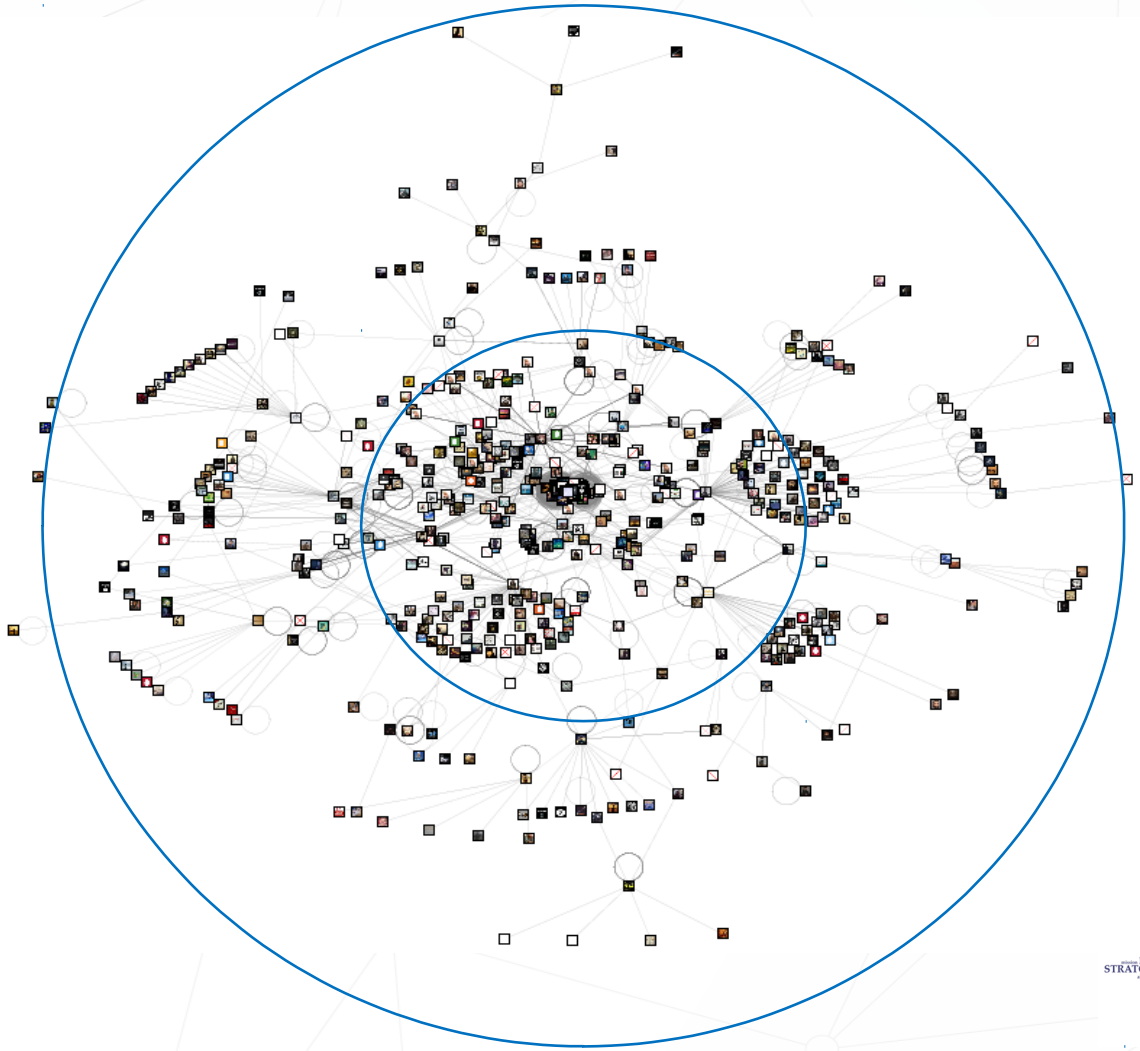
(The) Islamic State

State of Raqqah

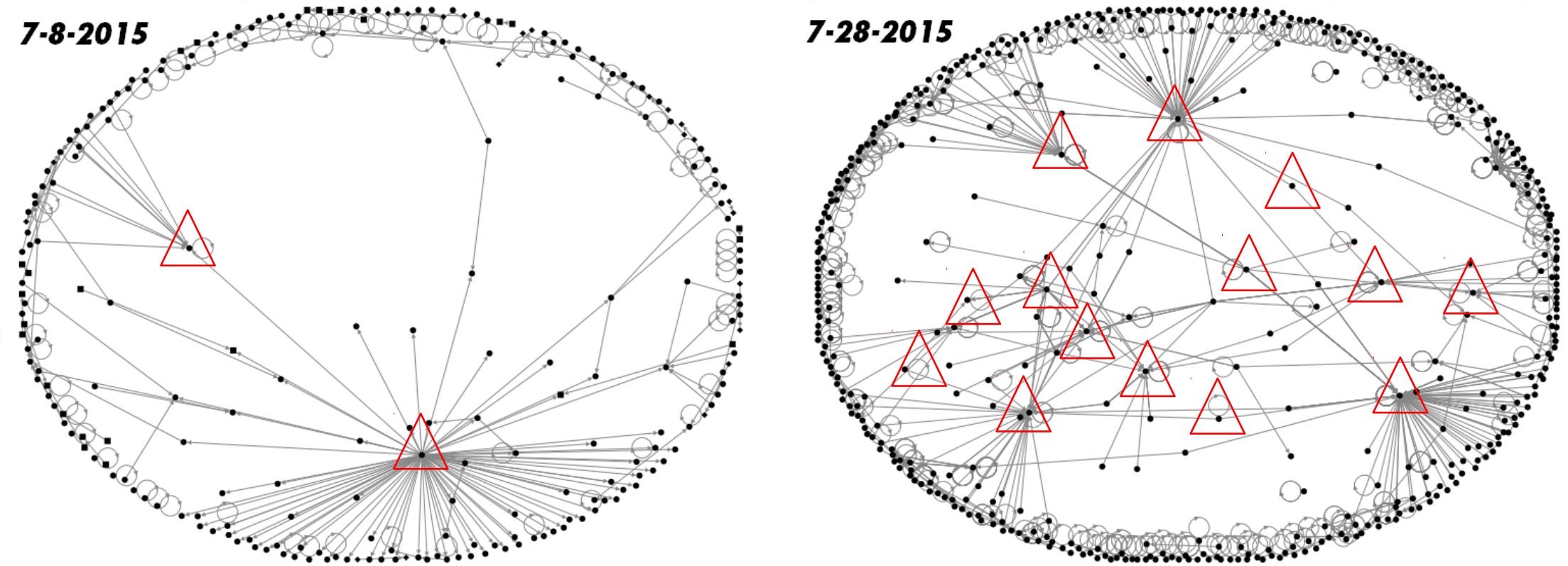
State of Sinai



Core-Periphery Structure



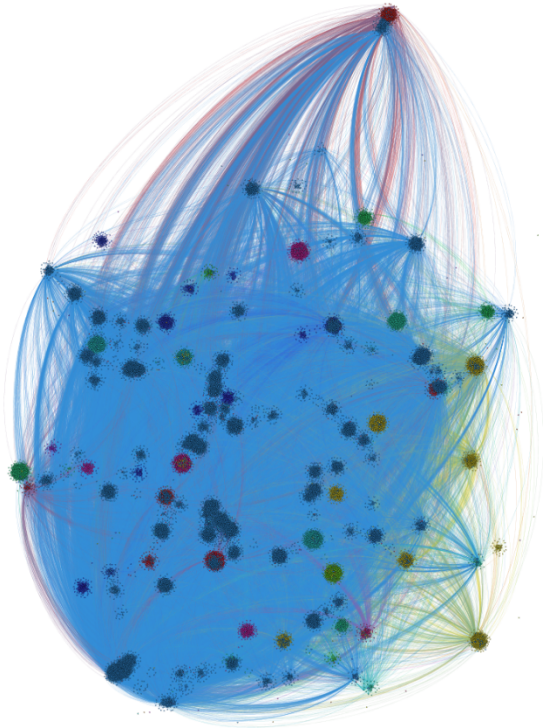
Evolving New Pathways



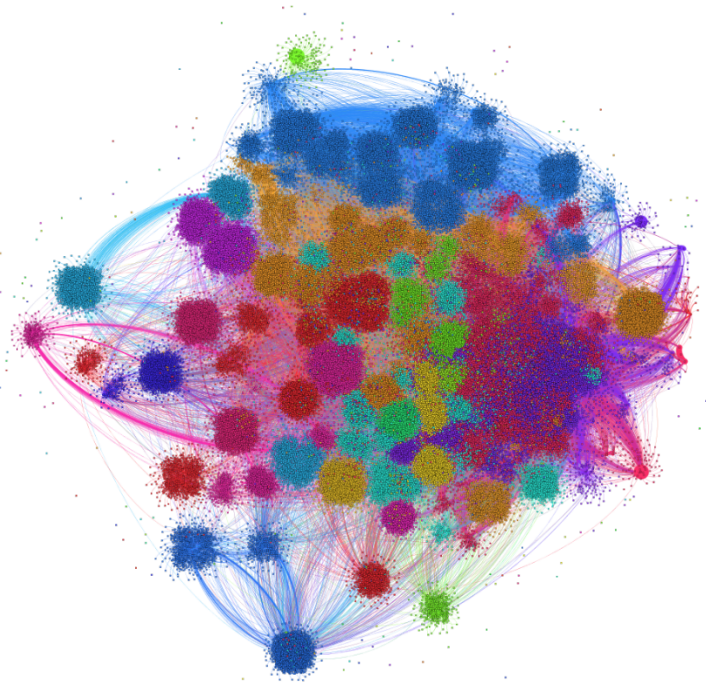
Backcloth Networks (Friend/Follow)

- We used traffic network account data to seed and populate a request that would return a maximum of 200 followers at the 2nd and 3rd degree from seed.
- This yielded a *closed form (snowball)* network (with a mean degree of 200, by definition) that *should* represent a large cross section of its representative traffic network. In this case, it would be Daesh members, supporters, opposers and those who engage those groups (news, media etc.).
- We focused our efforts on generating this network from our earlier research into keywords, specifically, the Arabic translation of “(The) State of the Caliphate”
- We repeated the process 3 times (only 2 of which we will discuss today), one before the massive effort to delete & suspend Daesh accounts, and one during/after the majority of visible deletion activity.

Friend/Follow Networks

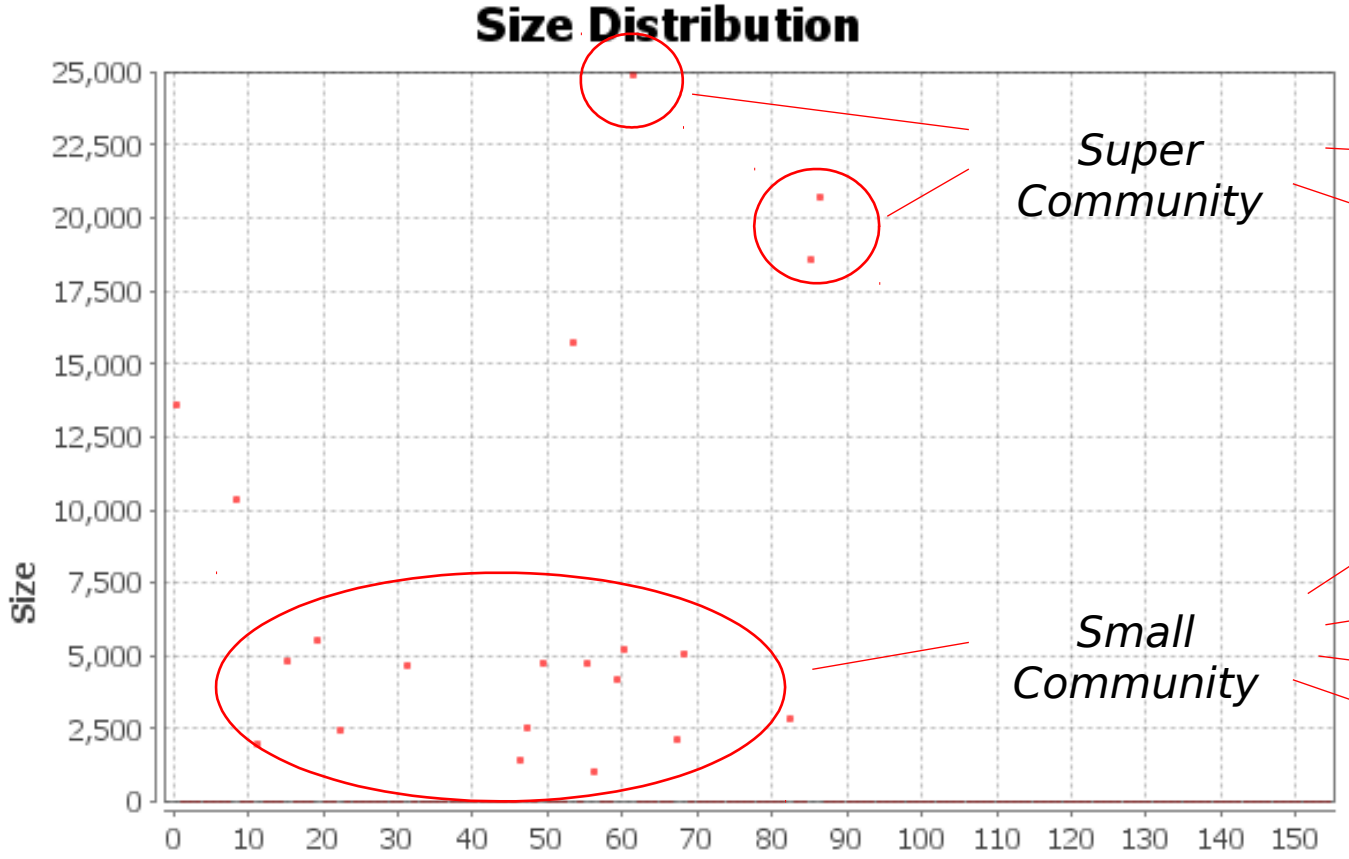


Nodes: 167,000 Relations: 336,000
Collected 10th of July, 2015



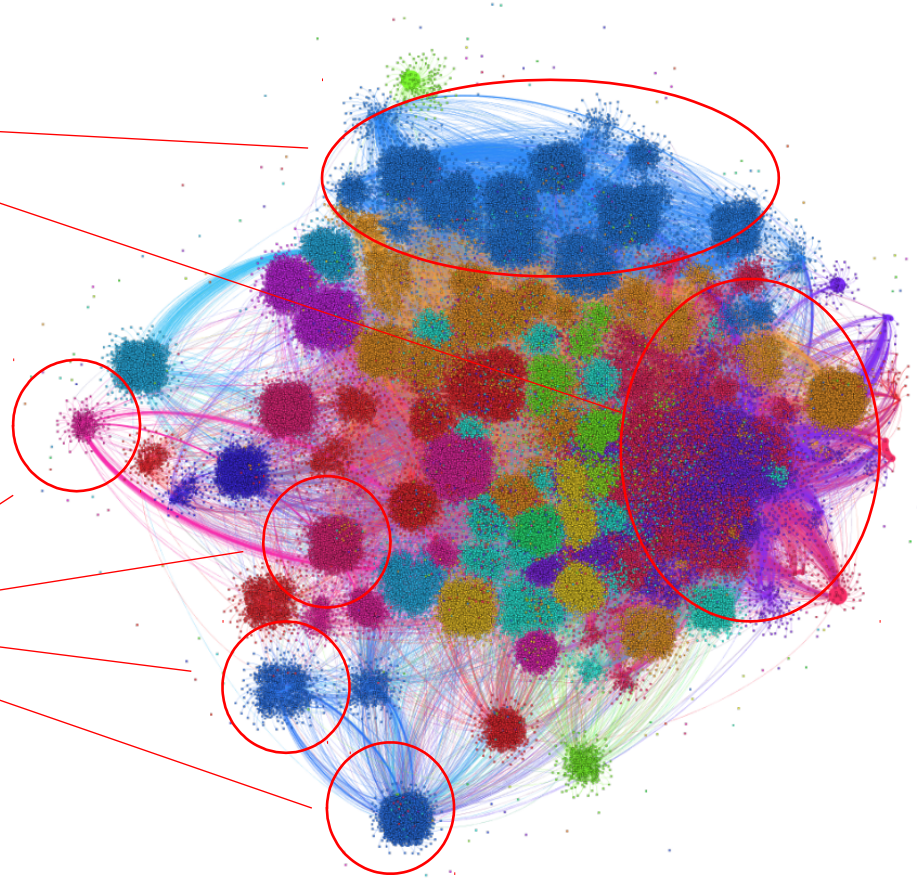
Nodes: 159,000 Relations: 504,000
Collected: 2nd of August, 2015

Community Focused Structure: High Levels of Clustering



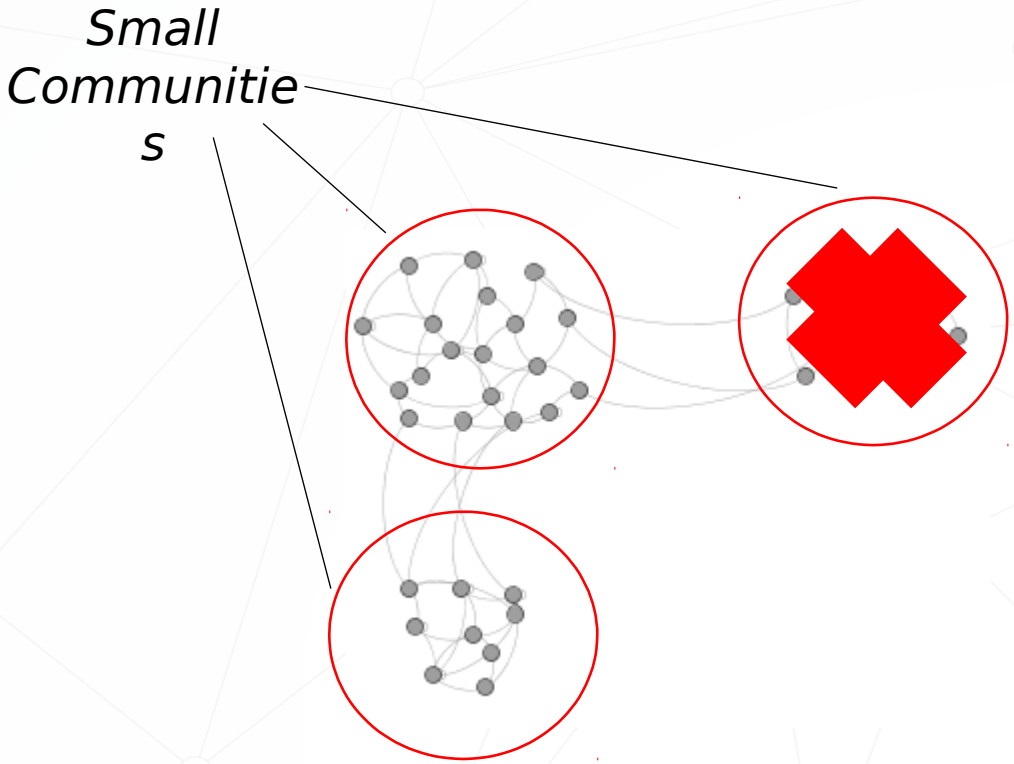
Super Community

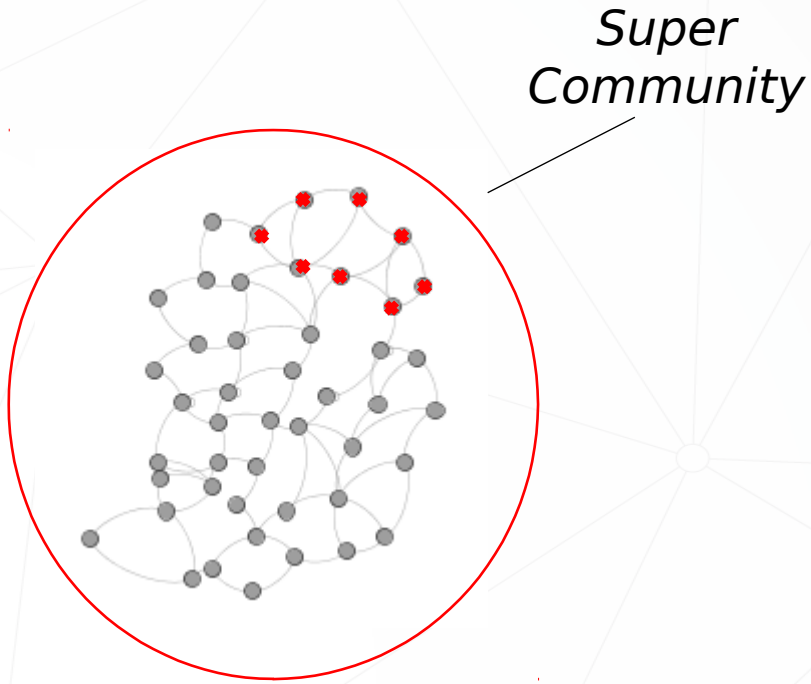
Small Community

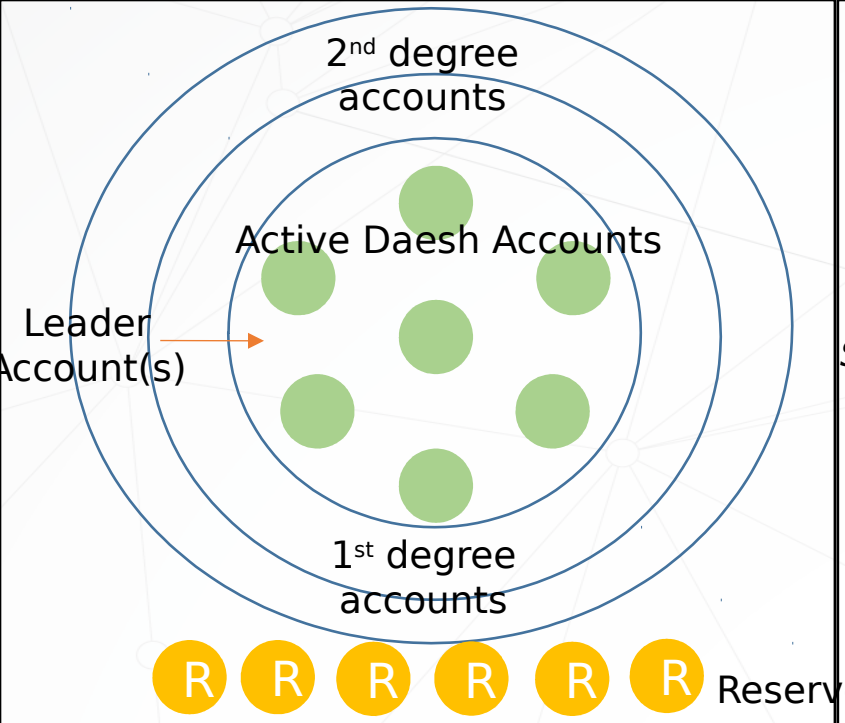


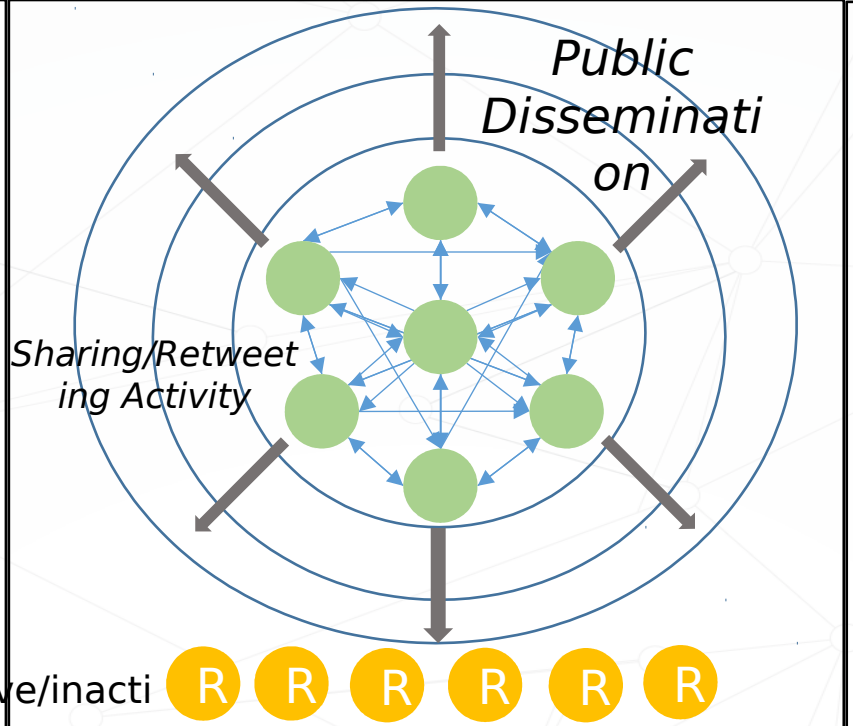
Insight: *Daesh (unknowingly) organizes in a number of small communities (about 500-2000 accounts) with 1 or 2 much larger communities (20,000-30,000) that drive the follow networks.*

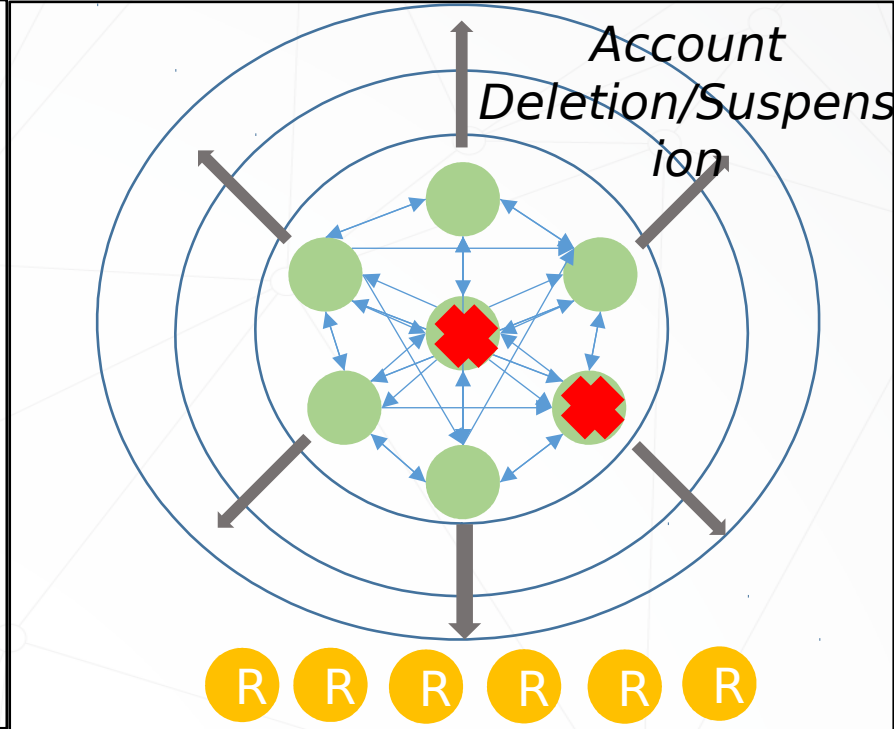
Community Structure: Clustering

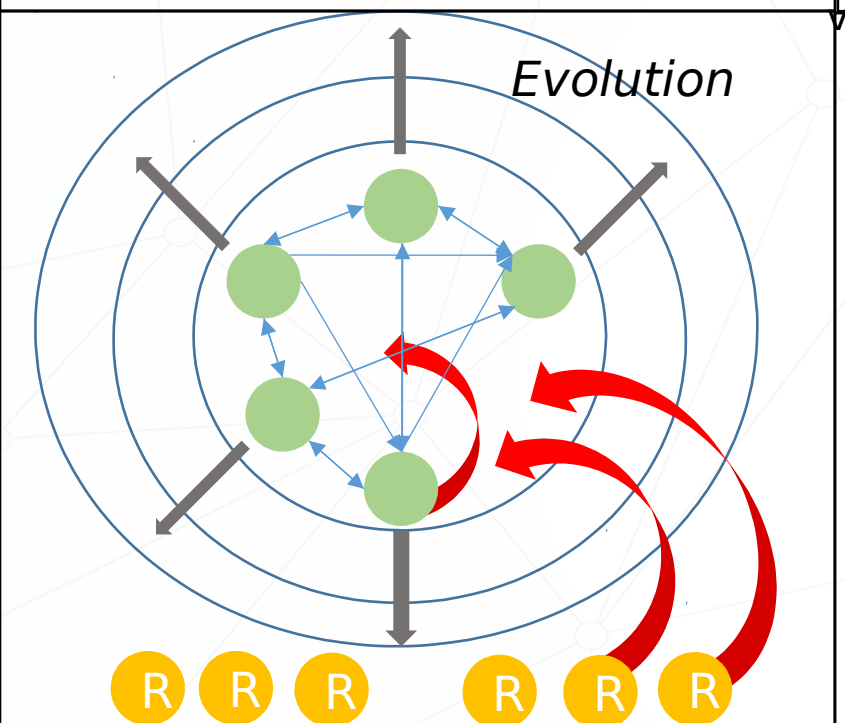


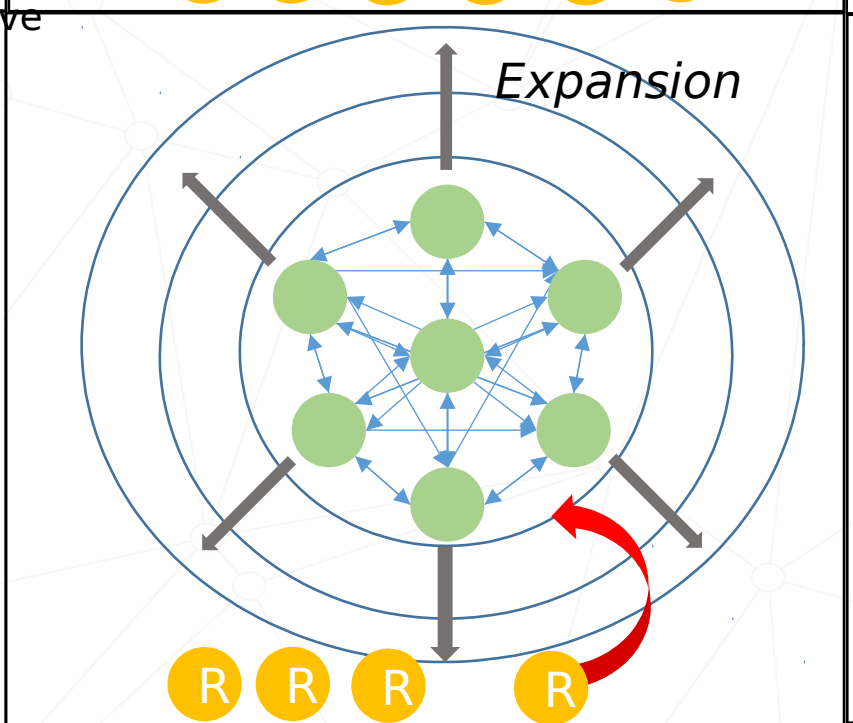


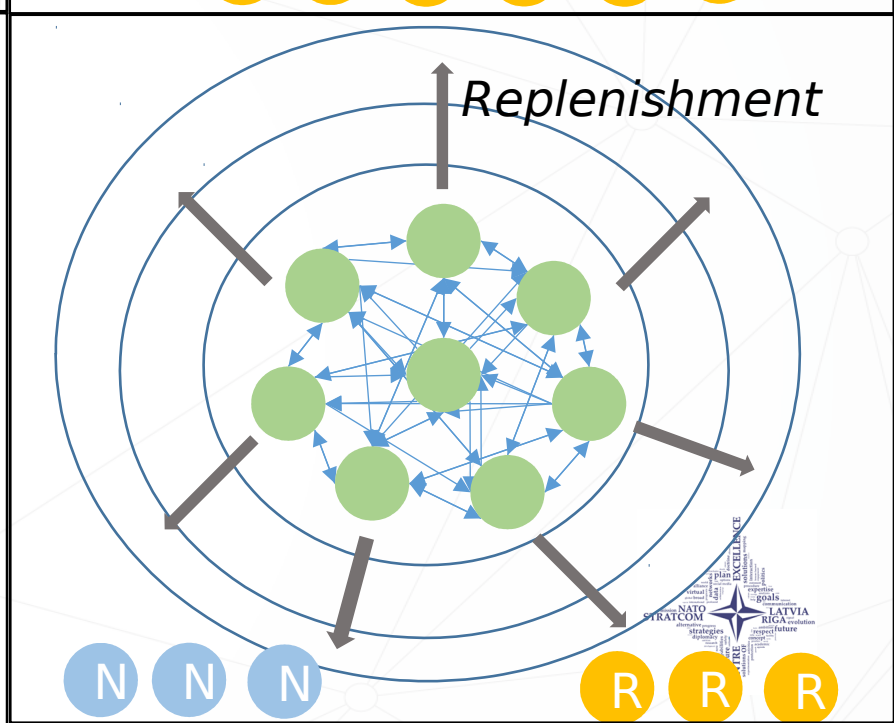

2nd degree accounts
Active Daesh Accounts
Leader Account(s)
1st degree accounts
R R R R R R
Reserve/inactive


Public Dissemination
Sharing/Retweeting Activity
R R R R R R


Account Deletion/Suspension
R R R R R R


Evolution
R R R R R R

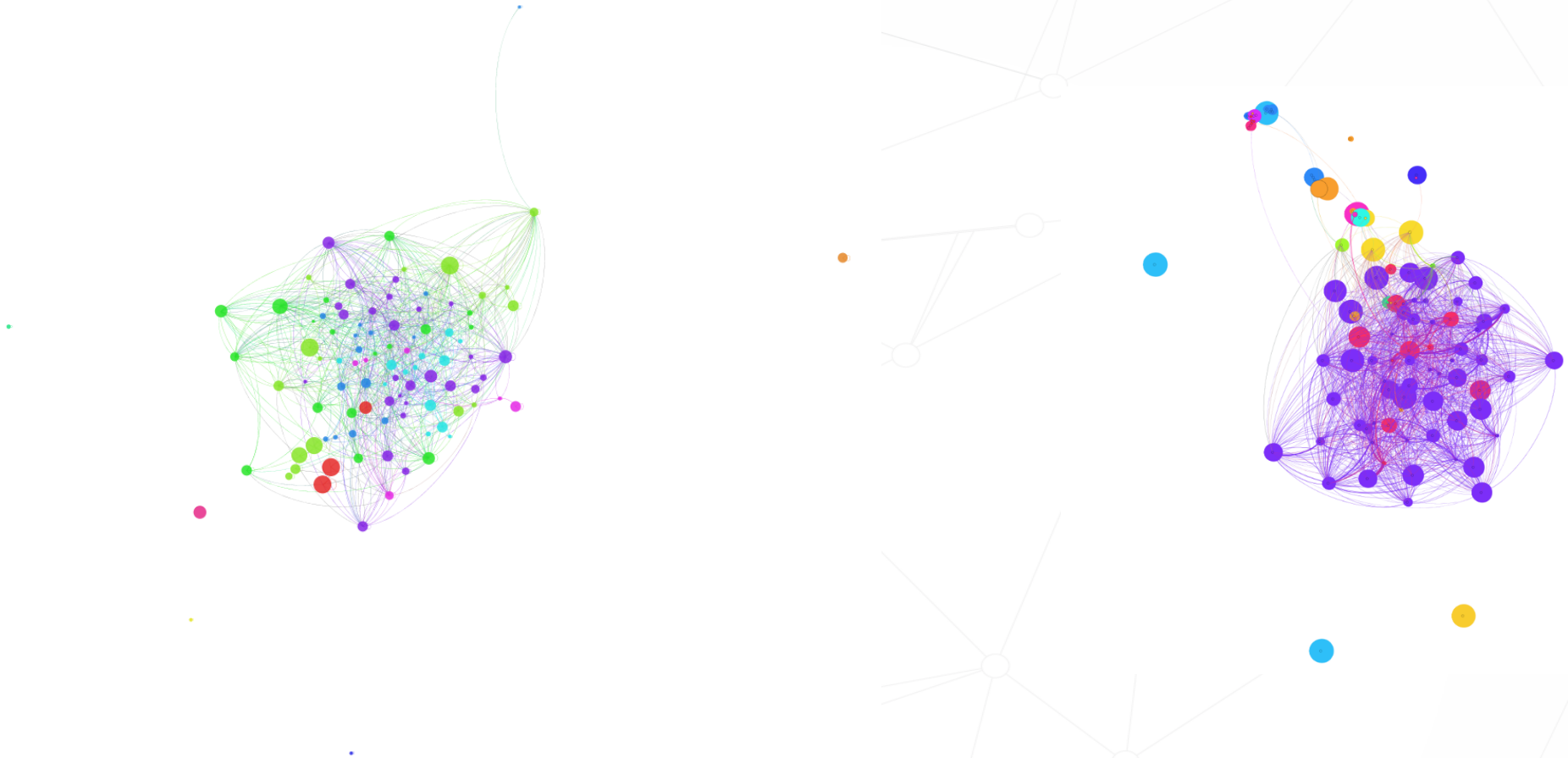

Expansion
R R R R


Replenishment
N N N
R R R

The DEER Process

1. **D**issemination of public propaganda
2. **D**eletion or suspension by adversary
3. **E**volution of (network) structure or methods
4. **E**xpansion of influence or methods
5. **R**eplenishment of accounts and resources.

Analysis of Community Leadership



Analyzing Network Leadership

Insight: *Leader accounts were 72% Daesh accounts with an additional 10% who support them.*

Insight: *95% of Daesh and supporter accounts are in Arabic (though that can be due to our seed accounts being in Arabic).*

Insight: *49% of network leader accounts have been deleted, changed by users, or suspended within 3 weeks of initial data collection.*

Insight: *In one network there were 67.5M relations; A reasonable estimate is about 338,000 accounts engaged in the network.*

Insight: *16% of accounts were “corporate” accounts; 69% were personal members’ accounts.*

Friend/Follow Network Conclusions

- Community structure is set so as to be a defensive structure against account deletion and suspension.
- Daesh is able to recover quickly by organizing in a number of small communities and some larger ones. When one account is suspended or deleted, new accounts created to replace it can be shared/followed by the same community members continuously.
- To eliminate the Daesh propaganda machine, a **community focused approach is needed**.

Transactional Analysis – Account Level Behaviors

Network Behavior: Building Cognitive Networks

Main Account

Reserve Accounts

(The) Twitter State

Network Behavior: Building Cognitive Networks

I miss the account of "Wahg Elkhelafa". I pray God returns him safely to us

I miss him too

Network Behavior: Building Adaptive Networks

"After those [expletive] of administrators (twitter) …suspended then deleted the new account, here's the new new account…"

- *A picture, not text, therefore likely undetected by automated detection algorithms*

Network Behavior: Signaling

A common Arabic name for a news channel, but the key is the statement. Translated: "Account number 8 after deletion". This is a signal that this account belongs to Daesh members.

Network Behavior: Signaling

Through difficult to (automatically) detect imagery, and special characters 2 goals are achieved:

The first is a statement of belonging to Daesh. The image accomplishes that.

The second, is the special character, which is used in the name to differentiate this user from other users who may share the same "name".

This makes it easy to search for this user post account deletion.

Network Behavior: Speedy Closure

"we (royal) want 1000 retweets of this message so that people will know my new account"

What's interesting here is not just that, this account owner asked for 1000 retweets, it is that he received ***294, and 79 favorites in under 24 hours****.*

Network Behavior: Avoiding Detection

Q_catr ✉ Q_catz ✉ Q_cadz
8200 followers ✉ 9750 ✉ 15500
Time period: 3 weeks

Update: After 5 weeks of evasion, his last account was taken down, but we found him again with 2 new accounts @q_catb and @Q_cadw with about 1600 followers

Twitter user names, and thus account urls can be changed instantaneously and without limit. As far as automated algorithms are concerned (which probably keep track of accounts by url, if a user changes his user name, s/he disappears.
At least 15% of the top accounts were found to be utilizing this

Strategic Insights

1. DAESH behavior is best understood as an evolutionary, self-repairing, self-reinforcing network – it’s difficult to forecast or predict.
2. Their ability to change is remarkable – and they make powerful use of social media to recruit, retain, and organize new followers.
3. To truly understand Daesh propaganda, and any terror group on social media, there must be greater *focus* on the method of dissemination as well as content.
4. As a consequence of this analysis a natural strategy seems to develop: We propose that this strategy which, as its goal, includes combating Daesh propaganda effectively, must rely on identifying communities through automated methods, followed by human verification, and the removal of entire communities of accounts before they become active.